

Certificate

Certified Passive House Component

for cool, temperate climates; valid until 31.12.2015

Passive House Institute
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64283 Darmstadt
GERMANY

Category: **Window Frame**
Manufacturer: **Askonsult Adverso LTD**
4000 Plovdiv, BULGARIA
Product name: **PH-1**

This certificate was awarded based on the following criteria:

Given a U_g value of $0.70 \text{ W/(m}^2\text{K)}$ and a window size of 1.23 m by 1.48 m,

$$U_w = 0.8 \text{ W/(m}^2\text{K)} \leq 0.80 \text{ W/(m}^2\text{K)}$$

Taking into account the installation based thermal bridges and provided that the installation is, with regard to the thermal bridges, equal or better than shown in the data sheet, the window meets the following criterion.

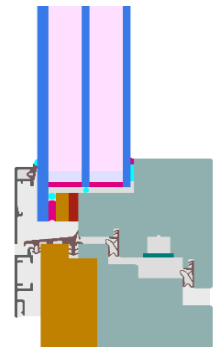
$$U_{w, \text{installed}} \leq 0.85 \text{ W/(m}^2\text{K)}$$

Thermal data

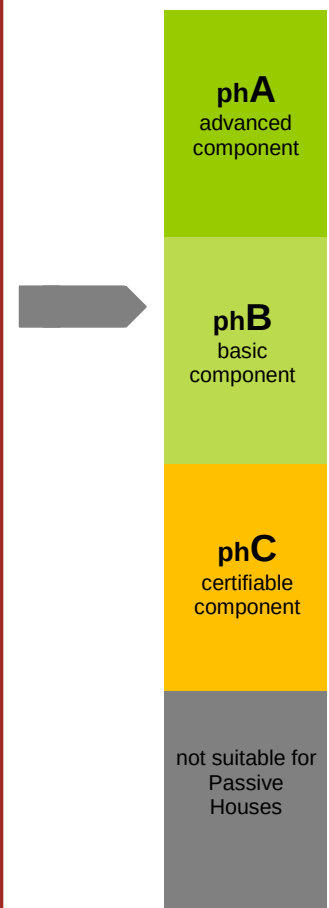
	U_f -value [W/(m ² K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			SWISSP. Ultimate SI*	
Bottom	0.83	111	0.027	0.70
Side/top	0.80	111	0.026	

*Spacers of lower thermal quality, especially those made of aluminium, lead to significantly higher thermal losses and lower temperature factors.

For further information, please see the data sheet



Passive House Efficiency Class

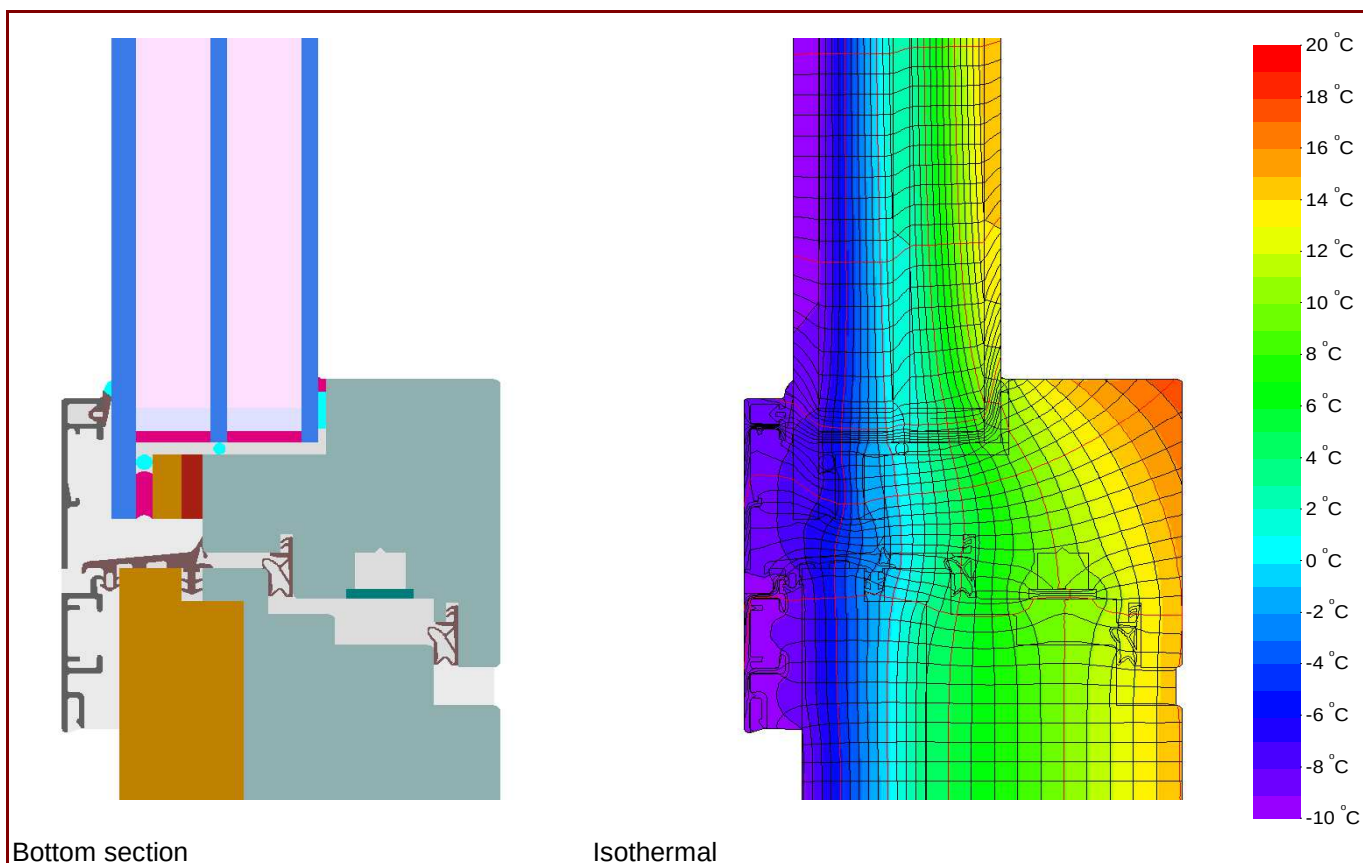


CERTIFIED COMPONENT

Passive House Institute

Data Sheet Askonsult Adverso LTD, PH-1

Manufacturer Askonsult Adverso LTD
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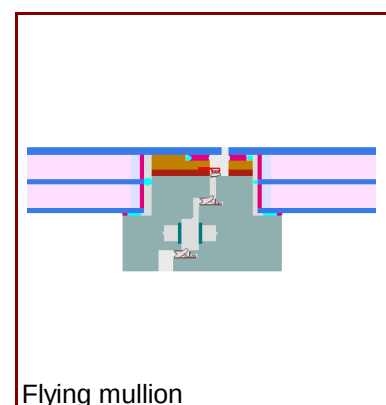


Description

Timber-Aluminum frame (Spruce/ Fir 0,11 W/(mK)), insulated by cork 0,045 W/ mK. Glazing 6/18/4/18/4
Pane thickness: 50 mm (6/18/4/18/4), rebate depth: 17 mm, spacer: SWISSPACER Ultimate with silicone secondary seal

Thermal data for the window frame

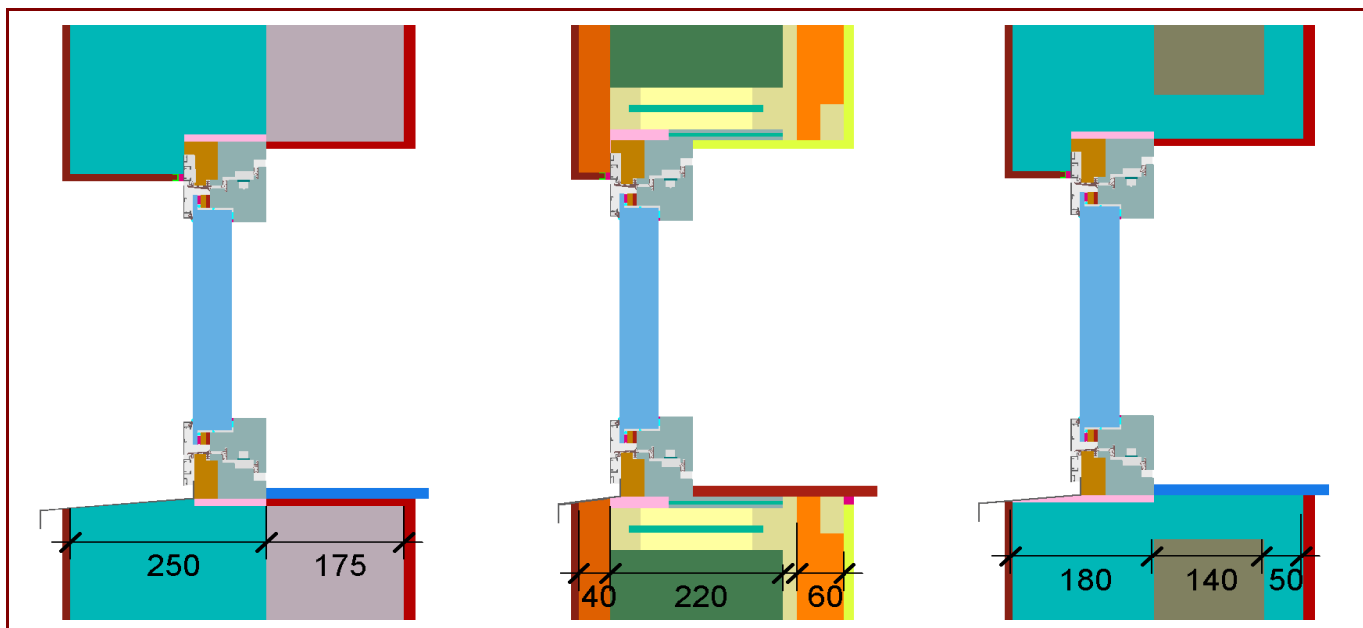
	U_f -value [W/(m²K)]	Width [mm]	Ψ_g [W/(mK)]	$f_{Rsi=0.25}$ [-]
Spacer			SWISSP. Ultimate SI*	
Bottom	0.83	111	0.027	0.70
Side/Top	0.80	111	0.026	
Flying Mullion	0.88	111	0.031	



* Spacers of lower thermal quality lead to higher thermal losses and lower glass edge temperatures.

Data Sheet Askonsult Adverso LTD, PH-1

Installation



Installation based thermal bridge $\Psi_{\text{instal.}}$ in Passive House suitable walls

		EIFS	Timber construction wall	Insulated formwork blocks
Position				
Bottom	[W/(mK)]	0.017	0.023	0.013
Side/Top	[W/(mK)]	0.005	0.016	0.004
$U_{W,\text{instal.}}$	[W/(m ² K)]	0.82	0.85	0.82

Explanatory notes

The window U-values were calculated based on a 1.23 m by 1.48 m window $U_g = 0.70 \text{ W/(m}^2\text{K)}$.
If better glazing is used, the window U-values decrease as follows:

U Glazing	U_g [W/(m²K)]	0.64	0.58	0.52
U Window	U_w [W/(m²K)]	0.76	0.72	0.67

Depending on the thermal losses through opaque elements, transparent components are categorised according to efficiency classes. These thermal losses include the losses through the frame, the frame width, the thermal bridge at the glass edge as well as the length of the glass edge. Certificates for arctic regions are too valid vor cold, certificates for cold regions are too valid for cool, temperate zones.

Please ask the manufacturer for a detailed report containing all calculations and results.

For further information, please visit www.passivehouse.com or www.passipedia.org.